

REMARKS

In response to the Examiner's rejection of Claims 3-11 under 35 USC 112, second paragraph, as being indefinite, Applicants have amended Claims 3 and 11 in order to more particularly point out and distinctly claim the subject matter which Applicants regard as the invention. That is, the subject matter of Claim 5 has been incorporated into Claim 3 and Claims 3 and 11 amended to overcome the rejections of 35 USC 112. Accordingly, Claim 5 has been canceled. In place of the phrase "wavy form", Applicants are now stating that the adhesive sheet is provided in an "undulating configuration". Additionally, Claims 3 and 11 also have been amended to state that the total volume of spaces, on the exposed portions of the adhesive agent layer and surrounded by the non-adhesive protective material, is a product of the surface area of exposed portions of the adhesive agent layer and the thickness of the protective material layer. No new matter has been added. It is respectfully submitted that the currently presented claims are cured of all formal defects.

Claims 3, 5, 6 and 11 have been rejected under 35 USC 102(b) as being anticipated by JP 49-30430. Claim 4 has been rejected under 35 USC 103(a) as being unpatentable over JP 49-30430 in view of Kurahashi. Claims 7-10 have been rejected under 35 USC 103(a) as being unpatentable over JP 49-30430. Applicants respectfully traverse these grounds of rejection and urge reconsideration in light of the following comments.

The presently claimed invention is directed to an adhesive sheet capable of repeated adhesion and release. The adhesive sheet comprises a substrate, an adhesive agent layer provided on at least one side of the substrate for being brought into contact with and adhering to an article solely through deformation of the substrate and a non-adhesive protective material layer provided on the adhesive agent layer in a pattern that exposes portions of the adhesive agent layer between and below portions of the non-adhesive protective

material layer. The total volume of spaces, on the exposed portions of the adhesive agent layer and surrounded by the non-adhesive protective material, is a product of a surface area of the exposed portions of the adhesive agent layer and the thickness of the protective material layer and can be regulated to provide a desired adhesive strength when the adhesive sheet is adhered to an article. The adhesive sheet is provided in an undulating configuration when the exposed portions of the adhesive agent layer is pressed toward the facing face of the article by pressure applied from the back side thereof and adhered to the article. Another embodiment of the present invention is directed to the adhesive sheet laminated to the article.

As discussed previously, the adhesive sheet of the present invention can be repeatedly adhered and released to and from an article with the provision of a non-adhesive protective material layer on the adhesive agent layer in a pattern to expose portions of the adhesive agent layer below the protective material layer. The total volume of the exposed spaces of the adhesive agent layer is determined by multiplying the surface area of the exposed adhesive agent portions by the thickness of the protective material layer and controlling the resulting exposed volume to obtain a desired adhesion strength of the adhesive sheet to the article. This enables problems, such as exposed areas of the adhesive agent layer adhering to undesirable objects such as fingers of the users, to be avoided. It is respectfully submitted that the currently claimed invention clearly is patentably distinguishable over the prior art cited by the Examiner.

JP 49-30430A discloses an adhesive fastener capable of being repeatedly affixed to or released from an object face onto which the fastener is to be affixed. As discussed in the abstract of this reference, the adhesive fastener is affixed onto an object by pressing so that the adhesive paste is pushed out from the voids of the intermediate material by pressing so as to adhere to the surface of the object. As

shown in Figure 4 of this reference, the support tape 1 is flat when affixed onto an object 5 by pressing. In order for support tape 1 to be flat after being adhered to an object, the adhesive fastener must be brought into contact with the object by exuding through the voids of the intermediate material as discussed in this reference's abstract. In contrast to this reference, in the present invention, the adhesive layer is brought into contact with the article solely through deformation of the substrate.

Additionally, if the support tape 1 of JP '430 adhered to an object according to the mechanism of the present invention, the support tape 1 would have had undulations at the portions corresponding to the adhesive portions of the adhesive layer when adhered to the object by pressing. However, the support tape is actually flat after adhesion of the fastener tape, as shown in Fig. 4 of JP '430 since it adheres to the object through the exudation of the adhesive through spaces provided in the intermediate material 3. As such, in this reference, the adhesive fastener is not provided with spaces having a size based on the adhesion strength required for the desired adhesion to the object and there is no motivation to provide exposed portions of the adhesive layer which are provided between and below portions of the non-adhesive protective material layer.

The adhesive fastener of JP '430 is sticky and presents difficulties in handling or use, such as sticking to the fingers and undesired areas of an article or machine. In contrast thereto, the adhesive sheet of the present invention is not sticky prior to adhesion to an article due to the presence of the exposed adhesive layer spaces provided below and surrounded by the protective material and the adhesive layer being able to adhere to an object only after the substrate has been deformed. Therefore, problems do not occur in handling, manual use or on machines and repeated adhesion and release can be achieved without any problem. In the operations of making packaging bags, such as plastic bags

which can be repeatedly reopened (released) and resealed (re-stuck), and filling them with food on a bag making and filling machine, non-sticky zippers are used. However, there has been known adhesive tapes, including the adhesive fastener of JP '430, which cannot be used on the above machine without sticking to the machine. Due to the non-sticky surface, applicants' adhesive sheet can be used for making bags and putting food, etc., into the bags on a bag making and filling machine without any mechanical trouble or difficulties. Therefore, the claimed adhesive sheets are industrially useful, as shown in Example 3. It is respectfully submitted that the presently claimed invention clearly is patentably distinguishable over this reference.

The Kurahashi reference discloses a packaging tape for use in packaging or bundling which comprises a tape-like substrate and a self-adhesive layer prepared from an aqueous mixture and coated to dry on at least one surface of the tape-like substrate. This reference has been cited for showing the provision of a color tape in which an ink colored layer is incorporated between the tape substrate and the self-adhesive layer. However, this reference contains no disclosure that would motivate one of ordinary skill in the art to modify JP '430 in a manner that would enable the adhesive layer disclosed there to bond to an article according to the presently claimed mechanism and provide exposed adhesive spaces below protective material layer which are used to calculate the adhesive strength. As such, Applicants respectfully submit that the presently claimed invention clearly is patentably distinguishable over JP '430 in combination with the Kurahashi reference.

Although Applicants respectfully submit that the Examiner has not made a showing of prima facie obviousness under 35 USC 103 with respect to the presently claimed invention, Applicants are enclosing herewith an executed Declaration Under 37 CFR 1.132 which illustrates the unobvious effects of the adhesive sheet of the present application. As can be seen

by the data contained in the Declaration, the adhesive sheet of the present invention can exhibit a desired adhesive strength when it is adhered to an object and can be handled without undesired adherence of the sheet due to it being provided with spaces having a total volume based on the adhesive strength to the object on the exposed portions of the adhesive agent layer and its novel bonding mechanism. This is clearly unexpected and further distinguishes the presently claimed invention over the cited prior art.

The Examiner is respectfully requested to reconsider the present application and to pass it to issue.

Respectfully submitted,


Terryence F. Chapman

TFC/smd

FLYNN, THIEL, BOUTELL	Dale H. Thiel	Reg. No. 24 323
& TANIS, P.C.	David G. Boutell	Reg. No. 25 072
2026 Rambling Road	Ronald J. Tanis	Reg. No. 22 724
Kalamazoo, MI 49008-1631	Terryence F. Chapman	Reg. No. 32 549
Phone: (269) 381-1156	Mark L. Maki	Reg. No. 36 589
Fax: (269) 381-5465	Liane L. Churney	Reg. No. 40 694
	Brian R. Tumm	Reg. No. 36 328
	Steven R. Thiel	Reg. No. 53 685
	Sidney B. Williams, Jr.	Reg. No. 24 949

Encl: Declaration Under 37 CFR 1.132
Notice of Appeal
Postal Card

136.0703